

**DEPARTMENT OF TRANSPORTATION****DIVISION OF ENGINEERING SERVICES**

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch

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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 69.28**WELDING INSPECTION REPORT****Resident Engineer:**Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-002916**Date Inspected:** 09-Jun-2008**Project Name:** SAS Superstructure**OSM Arrival Time:** 700**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1700**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China**CWI Name:** Sun Wei**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** OBG and Tower**Summary of Items Observed:**

The Quality Assurance (QA) Inspector Gregory Bertlesman arrived on site at the Zhenhua Port Machinery Company facility on Changxing island, China to periodically monitor welding and Quality Control functions. While on site the Quality Assurance Inspector observed and/or discovered the following.

**Production Monitoring Test Macro-Etch Samples**

The Quality Assurance Inspector performed a visual inspection of a set of production monitoring tests (PMT) macro etch samples, identified as DP-601-001/DP551-001. The PMT was welded during the night shift and ZPMC Quality Control Inspector Sun Wei stated ZPMC was finished with the review of the samples at approximately 0500 hours. All samples appeared to contain penetration greater than 80 percent and appeared to comply with the latest acceptance criteria. All the data from the review was recorded in a tracking log and forwarded to Quality Assurance Task Leaders and Structural Materials Representatives. The Samples were digitally photographed and placed on the internal server for future review.

**Bay 2**

The Quality Assurance Inspector observed ZPMC continuing to reassemble the 114M Tower mock-up upper assembly to the lower assembly. ZPMC was observed installing high strength bolts to the internal bolted connection plates. The bolt contained a designation on the head of the bolt NL 88. There were no marks made by ZPMC on the heads of the bolts or the base metal as required by the turn of nut method. In addition there was not a Skidmore Wilhelm Tension measuring device in the immediate area of the assembly. Below is a digital photograph illustrating the installation in progress.

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### Bay 3

The Quality Assurance Inspector observed ZPMC utilizing the semi-automated, multiple head, flux cored arc welding gantry number 1 in order to perform the required fillet welds to Side Plate SP-194-001 stiffener to side plate connection.

The Quality Assurance Inspector observed ZPMC in the process of welding Edge Plates EP-027-001 and EP-022-001. ZPMC was utilizing the flux cored arc welding process to perform the fillet weld stiffener to edge plate connection.

The Quality Assurance Inspector observed ZPMC in the process of fitting up and tack welding Side Plate SP-182-001. ZPMC was utilizing the shielded metal arc welding process to perform the tack weld stiffener to side plate connection.

### Bay 4

The Quality Assurance Inspector observed 6 sets of diaphragm flanges in various stages of fabrication from fit-up to in process flux cored arc welding.

The Quality Assurance Inspector witnessed ZPMC performing heat straightening operations to EP-055-001. ZPMC Quality Control was observed measuring the heat with a infra-red temperature indicating devise.



### Summary of Conversations:

As stated in the contents of the above report.

### Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Pat Lowry (916) 227-5719, who represents the Office of Structural Materials for your project.

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**Inspected By:** Bertlesman,Greg

Quality Assurance Inspector

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**Reviewed By:** Cuellar,Robert

QA Reviewer